Landsat Program Communications

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USGS

U.S. Department of the Interior
U.S. Geological Survey

Options, general

- Press releases
- Media contacts
- Education (primarily supporting NASA)
- Public Affairs

Matters of special interest to this group

- Partnerships
- Science support
- Policy

Partnership with NASA

- NASA education and “Earth From Space”

- LDCM communications plan

Earth from Space | Smithsonian Institution

http://www.earthfromspace.si.edu/

sites earth from space

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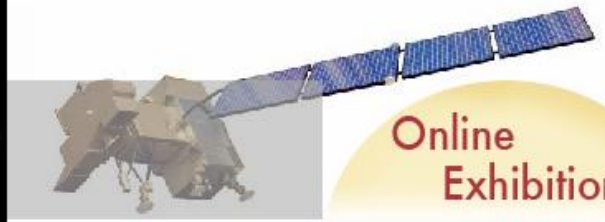
EARTH from SPACE



Online Exhibition

EARTH from SPACE

See our amazing planet from the perspective of an orbiting satellite. Developed by the Smithsonian Institution, this website complements the national traveling exhibition, which may be coming to a city near you!

Smithsonian Institution

- **Science support related to policy**
  - **Make strong use of applications examples**
  - **Respond to science community issues**

USGS
science for a changing world

MANAGING WATER RESOURCES FROM SPACE

"Landsat is an invaluable tool that allows our METRIC image processing software to determine evapotranspiration at sufficient spatial resolution to allow us to distinguish water consumption by individual agricultural fields and farms. The METRIC process requires the thermal band of Landsat, and the high resolution of Landsat-based ET maps is essential for water rights regulation and western water management."

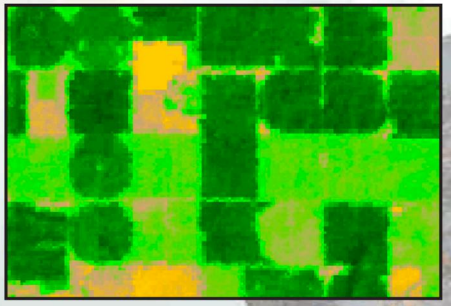
— Dr. Richard Allen, Professor of Water Resources Engineering, University of Idaho

THE METRIC MODEL MAPS WATER CONSUMPTION

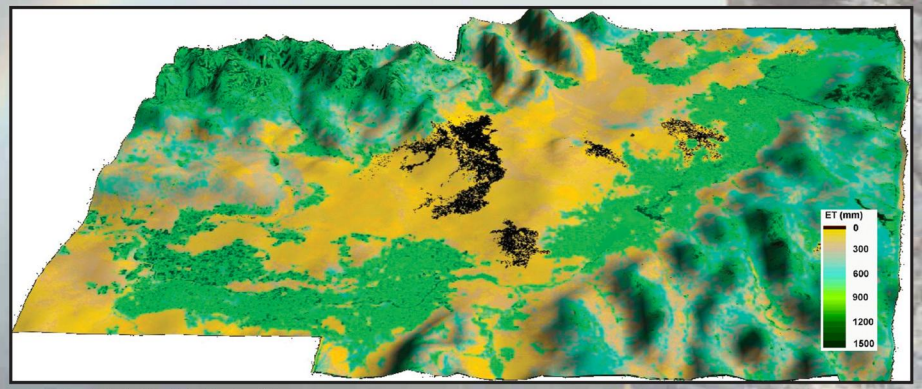
Mapping EvapoTranspiration with high Resolution and Internalized Calibration (METRIC) is a surface energy balance model using Landsat's thermal, infrared, and visible data to map evapotranspiration (ET) in regions where irrigated agriculture is a major consumer of water.

ET maps are used to:

- **Determine ET for specific crops and land uses**
- **Calculate impacts of ground-water pumping**
- **Assess performances of irrigation systems**



Landsat's 30 meter resolution is excellent for mapping ET from individual fields



Annual ET from the Snake River Plain of Southern Idaho

METRIC was developed by the University of Idaho and Idaho Department Water Resources under a NASA Synergy grant

Background image: Shoshone Falls on the Snake River

U.S. Department of the Interior
U.S. Geological Survey

University of Idaho · Raytheon · NASA · IDWR

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Mapping Evapotranspiration From Space

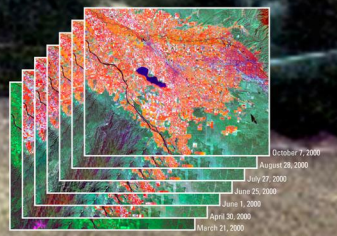
"We at IDWR anticipated that ET maps generated by METRIC using Landsat images would be a better way of making ET information available to our applications that have traditionally used ET. What we did not anticipate was how useful ET information in map form would be to applications that have not traditionally used ET."

— Tony Morse, Manager, Geospatial Technology Section, Idaho Department of Water Resources (IDWR)

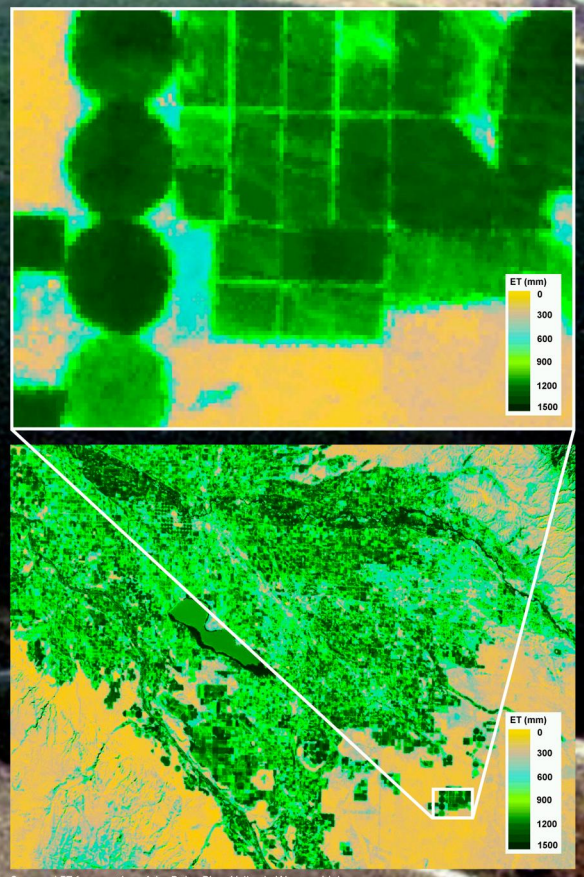
Mapping EvapoTranspiration with high Resolution and Internalized Calibration (METRIC), an energy-balance model, computes evapotranspiration (ET) directly from Landsat images. METRIC was developed by the University of Idaho in conjunction with the Idaho Department of Water Resources.

METRIC has been used to

- **Map ET by land use/land cover type**
- **Compute aquifer depletion from irrigation**
- **Compute a water balance forground water models**
- **Compute consumptive water use by irrigated agriculture**



METRIC processed seven dates of Landsat data to generate seasonal ET for southern Idaho.



Seasonal ET for a portion of the Boise River Valley in Western Idaho

The public can access our Internet mapping site for ET at: http://maps.idwr.idaho.gov/et

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Policy support

- Letters through USGS
- Press releases related to data distribution and applications

Contact information

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